

PATENT

Attorney Docket No. MTI-31041-A

**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appellant : Ping, et al.  
Serial No. : 10/046,497  
Filing Date : October 26, 2001  
For : Method For Forming Raised Structures by Controlled Selective Epitaxial Growth of Facet Using Spacer  
Group Art Unit: 2814  
Examiner : LE, Thao X.  
Confirmation No.: 8624

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**CERTIFICATION OF SUBMISSION**

I hereby certify that, on the date shown below, this correspondence is being transmitted via the Patent Electronic Filing System (EFS) addressed to Examiner LE at the U.S. Patent and Trademark Office.

Date: December 31, 2007 Kristini M. Stedthoff

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**Mail Stop Appeal Brief - Patents**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY BRIEF UNDER 37 C.F.R. §41.41**

Sir:

This brief replies to the Examiner's Answer mailed October 29, 2007.

The Examiner's Answer does not raise any issues not previously raised. Therefore, this Reply Brief will only comment on a certain specific points.

At page 8 of the Examiner's Answer, the Examiner makes arguments that Matsumoto (JP 401286361) discloses multiple SEG layers 4 and 6, stating as follows (emphasis added):

- a. ...the Examiner submits that the depth region 6 constitutes a *distinguishable junction* between the doped SEG layer and undoped SEG layer as depicted by the separating line in fig. 3(b). Thus, Matsumoto *clearly discloses multiple SEG layers*, i.e. layer 4 and 6...

The Examiner also argues the definition of the term "layer" in the claims (no supporting reference), stating as follows (emphasis added):

- a. ...a claim must be read in accordance with the percepts of English grammar and words should be given their plain, ordinary meaning...In this case, the definition of "layer" being interpreted by the Examiner as "is a *single thickness of something that lies over or under something*"; thus, the interpretation of layers 4 and 6 would read on the claimed limitation.

The claims at issue are to a semiconductor structure that is defined by multiple epitaxial silicon layers – with each epitaxial silicon layer having an upper surface composed of a plurality of facets.

The "junction" identified by the Examiner in Matsumoto's structure, results from doping of the silicon layer 4. The presence of a "junction" between a doped area and an undoped area of an epitaxial silicon layer 4 does not create two separate epitaxial silicon layers. The "junction" merely delineates a difference in dopant concentration between the upper area 6 and lower area of SEG layer 4.

Nor does the "junction" between the doped and undoped areas of epitaxial layer 4 create or signify facets on a top surface of an epitaxial layer.

Secondly, Appellant's claims define the structure as having *multiple epitaxial layers*. Appellant is not claiming a thickness of "something" over "something." "Epitaxial layer" is an art understood term meaning a single crystal film grown upon a single crystal substrate in the course of epitaxial deposition. (Van Zant, P., *Microchip Fabrication*, 4<sup>th</sup> ed., page 602, McGraw-Hill, NY, NY (2000); cited and submitted in Appellant's Response dated September 10, 2003).

Matsumoto teaches a *single* epitaxial layer having a dopant region 6. The presence of an upper dopant region in an epitaxial layer does not create nor equate to two epitaxial layers.

Regarding the claims that have been withdrawn by the Examiner, Appellant is requesting reconsideration and rejoinder of those claims. MPEP 821.04. Appellant particularly points to Claims 149-155, 170-172, 176-181, 190-193, 196, 198-202, 225-226 and 232, which require all the limitations of the claims at issue.

**Extension of Term.**

Appellant believes that no extension of term is required with the submission of this Reply Brief. However, a conditional petition is being made to provide for the possibility that Appellant has inadvertently overlooked the need for a petition for extension of time. If any extension and/or fee are required, please charge Account No. 23-2053.

For the reasons stated in the above arguments, Appellant believes that the claims on appeal comply with 35 U.S.C. §§ 102/103, and requests that the final rejection of the claims on appeal be reversed.

Respectfully submitted,



Dated: December 31, 2007

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